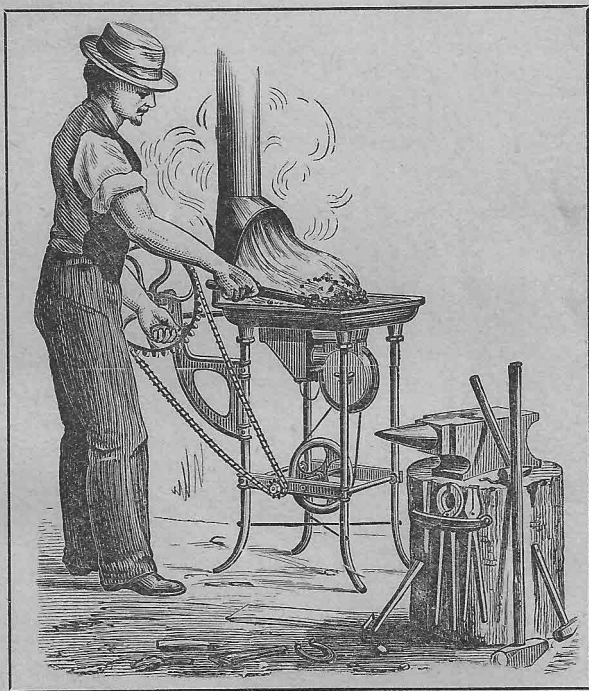


ILLUSTRATED CATALOGUE  
OF THE  
**KEYSTONE**  
PORTABLE FORGES,

BLOWERS AND



EXHAUSTERS.

**Manning, Maxwell & Moore,**  
NEW YORK AGENTS,  
**No. 111 Liberty Street.**



1885.

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CATALOGUE

OF THE

KEYSTONE PORTABLE FORGES,

*PRESSURE BLOWERS*

AND

EXHAUSTERS.

Patented in the United States, Canada,  
and Great Britain.

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The most Reliable and most  
Durable Forge in the  
Market.

*The Keystone Portable Forges excel all others in the following points:—*

- 1st. Blast, and consequent heating capacity.
- 2d. Lightness, and consequent portability.
- 3d. Strength, and consequent durability.
- 4th. Cheapness.
- 5th. Great variety of styles, being adapted to every class of metal work.
- 6th. Mode of gearing, rendering them easier to work and requiring less attention and repair than any others.
- 7th. Tubular iron legs and frames, far superior in every respect to all others.
- 8th. All the parts are fastened by bolts and nuts, and are interchangeable. Any part broken or worn out can thus be duplicated at small expense.

BELLOWS TAKE UP SPACE, are apt to be of defective leather, are liable to burn, and have been known to burst from various causes.

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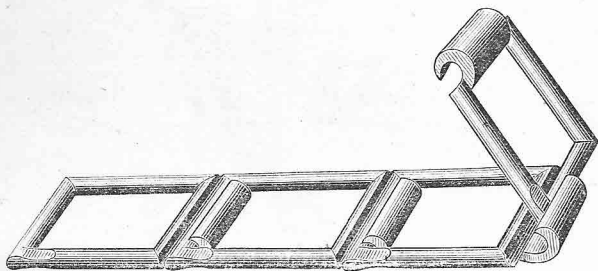
## DIRECTIONS.

1. Keep the bearings and chain gear oiled.
2. Turn the wheel with a steady motion, and not too fast (from 25 to 40 revolutions per minute.) All our Forges have plenty of spare blast.
3. The large wheel should revolve left-handed (outward from the Forge.) If turned in the contrary direction, the blast will be less, and the fan will not run so smoothly.
4. If the hearth is to be subjected to great heat, coat it with some refractory cement or fire clay.
5. The Forges, especially the chain gear, may work stiff at first. After a little use, they will run with the greatest ease.
6. In ordering, to avoid mistake, be careful to designate exactly by the names given in the Price List of this Catalogue.

# CHAIN GEAR.

For transmitting power to the fan used on Portable Forges, various devices have been resorted to. After a great outlay in money and many failures in our efforts to utilize the various means then in vogue, we hit upon the

## SQUARE LINKED MALLEABLE IRON CHAIN.

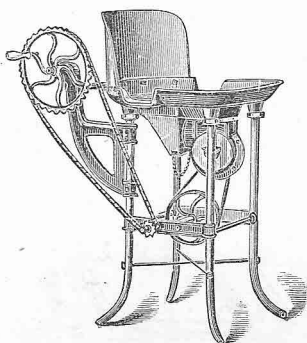


Which, after four years' experience and thorough test, we are convinced is superior to anything for that purpose we have yet met with. It is more durable than cog gear, and more reliable than friction pulleys. It is positive in its action, and from its construction it cannot slip, and may, therefore, be run slack, with much less friction upon the journals and bearings. As it neither stretches nor contracts by heat or dampness, it is always the same in all kinds of exposure.

### DIRECTIONS FOR USING CHAIN.

Place the chain upon the wheel, with the open hook of the link out. To hook or unhook a link, make an angle, as represented in cut, and slide the link out by a side motion ; the two depressions on side of link are for this purpose.

# THE KEYSTONE PORTABLE FORGES.



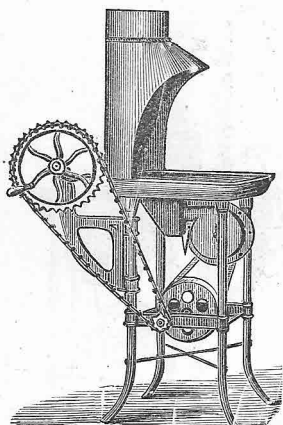
Forge No. 1, with Back. Price, \$25.00

Height, 30 in. Fire Pan, 17x20 in. Weight, 88 lbs. Fan, 6 in.

FORGE No. 1, will produce a quick welding heat on iron one inch diameter. Heavier work can be done on it.

This Forge is used by tank builders, elevated railroads, miners, boiler makers, etc. Being light and strong and compact it is easily carried about.

# THE KEYSTONE PORTABLE FORGES.

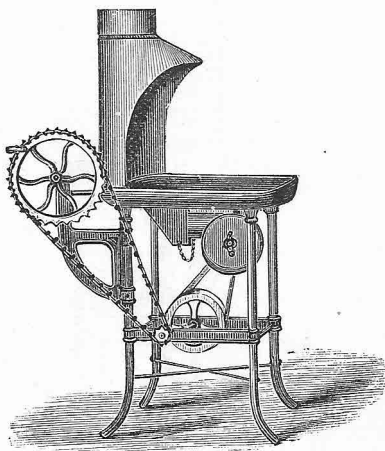


Forge No. 1, with Hood. Price, \$25.00

Height, 30 in. Fire Pan, 17x20. Weight, 88 lbs. Fan, 6 in.

FORGE No. 1 with HOOD, is for in-door use, a stove-pipe being attached. It is used by model-makers, plumbers, tinsmiths, jewelers, locksmiths, and small hardware manufacturers, for heating and tempering tools.

# THE KEYSTONE PORTABLE FORGES.



Forge No. 2, with Hood. Price, \$35.00

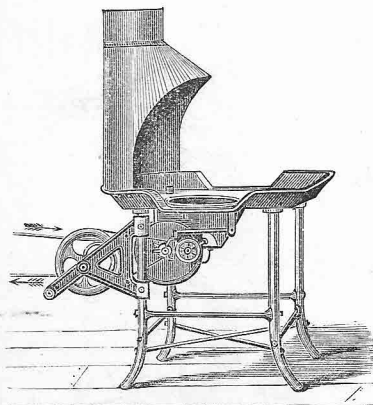
Height, 30 in. Fire Pan, 20x24. Weight, 104 lbs. Fan, 8 in.

FORGE No. 2, will produce a quick welding heat on iron one and-a-half inch diameter. Heavier work can be done on it. It is used by boiler makers, bridge builders, on board ships, contractors, etc.

We put a back on this Forge, same as on Forge No. 1, when desired.



# THE KEYSTONE POWER FORGES.



Portable Forges Nos. 2½, 3 and 4, Power.

Forge No. 2½ Power, with Hood, Price \$45.00

Height, 25 ins. Size of Firepan, 21x27 ins. Weight, 140 lbs.  
Diameter of Fan, 9 ins.

Forge No. 3, Power, with Hood, Price \$55.00

Height, 25 ins. Size of Firepan, 24x30 ins. Weight, 150 lbs.  
Diameter of Fan, 10 ins.

Forge No. 4, Power, with Hood, Price \$65.00

Height, 25 ins. Size of Firepan, 30x40 ins. Weight, 200 lbs.  
Diameter of Fan, 12 ins.

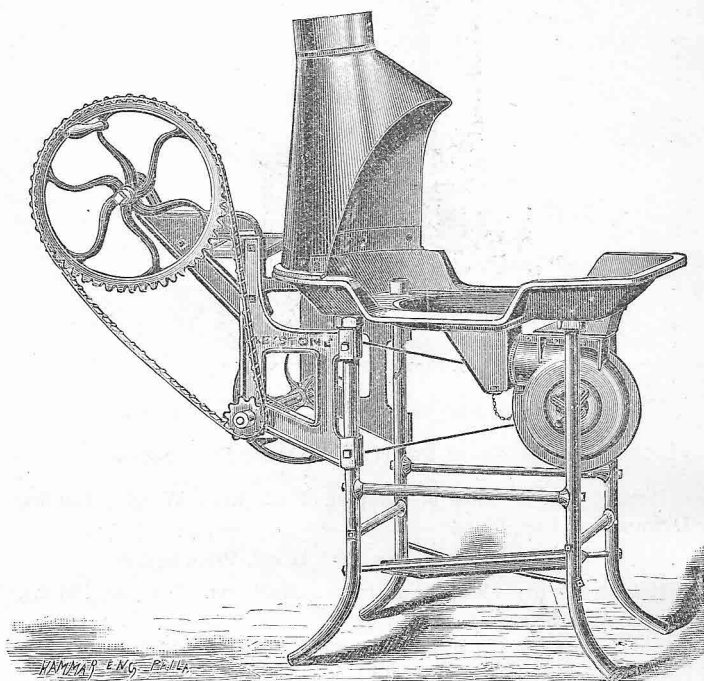
FORGE NO. 2½ will produce a quick welding heat on iron two inches diameter; Forge No. 3 on three inch iron, and Forge No. 4 on four inch iron. They will work heavier iron if required, as there is plenty of spare blast.

THEY HAVE A CUT-OFF for the blast, by which it can be regulated to any degree.

THEY WORK BEAUTIFULLY and give great satisfaction for the class of work specified.

BUYERS WILL SAVE MONEY, and economize space, fuel and labor by purchasing these Forges.

# THE KEYSTONE PORTABLE FORGES.

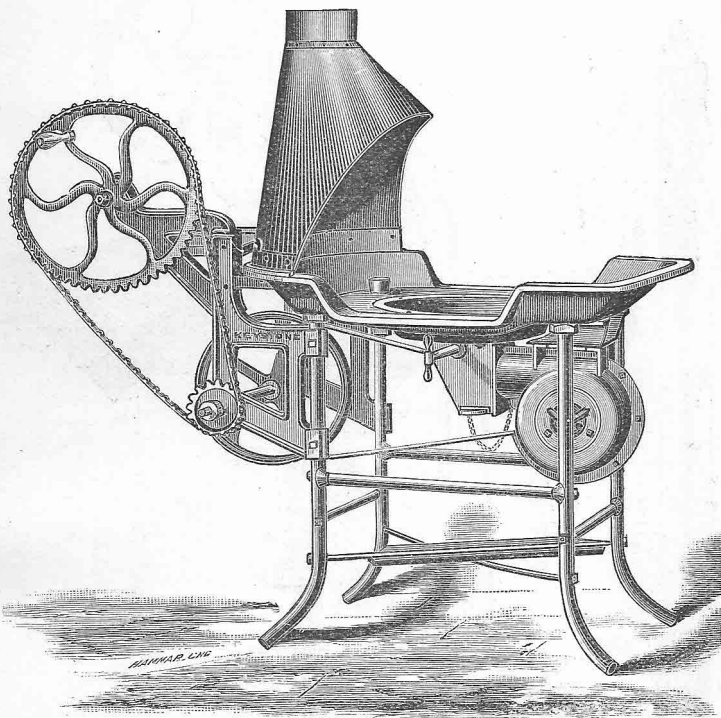


Forge No. 2½ with Hood, Price, \$40.00.

Height, 25 ins. Firepan, 21x27. Weight, 150 lbs. Fan, 10 ins.

This Forge will produce a quick welding heat on iron two inches in diameter and on heavier iron if required. It is used for all kinds of tool work, machinists, marble works, millers, and repairs for manufacturers in general.

# THE KEYSTONE PORTABLE FORGES.

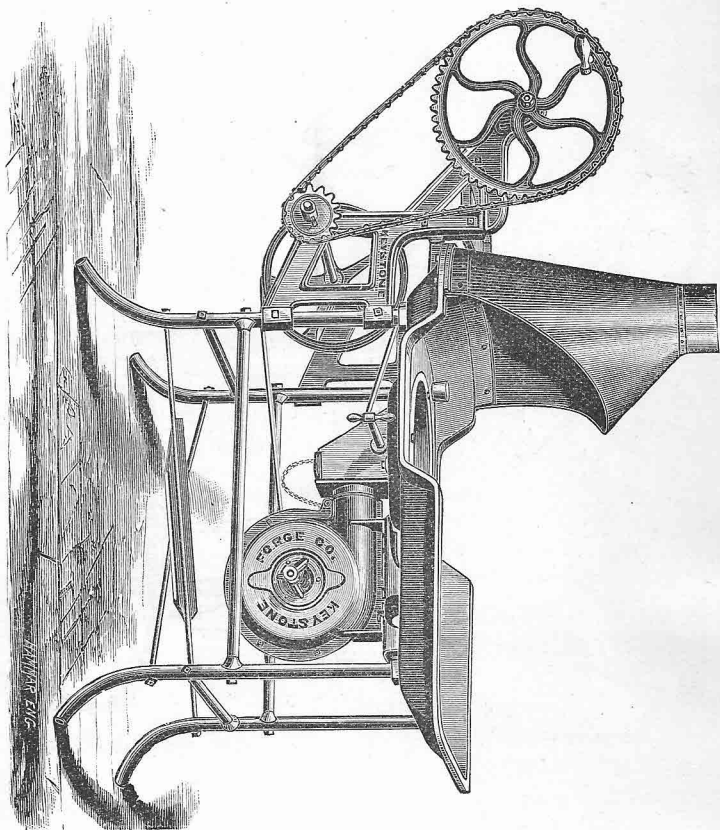


Forge No. 3, with Hood. Price, \$50.00

Height, 25 in. Fire Pan, 24x30. Weight, 160 lbs. Fan, 12 in.

This Forge will produce a quick welding heat on iron three inches in diameter, or on heavier iron if desired. It has our latest improved Revolving Ball Tuyere.

# THE KEYSTONE BLACKSMITHS' FORGES.

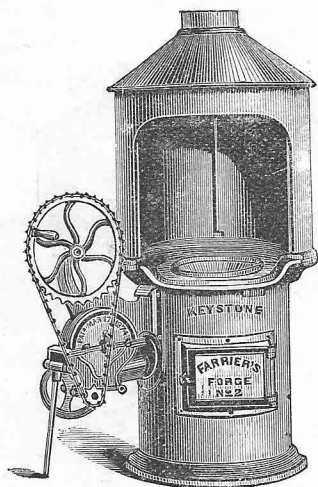


Forge No. 4, with Hood. Price, \$60.00

Height, 25 in. Fire Pan, 30x40. Weight, 200 lbs. Fan, 16 in.

Blacksmiths will find this the most durable Forge in the market. It has a stronger blast than any other made. It has our latest improved Revolving Ball Tuyere.

# THE KEYSTONE FARRIERS' FORGE.



Farriers' Forge, with Hood, \$65.00.

Height, 25 inches. Diameter of Firepan, 30 inches. Diameter of Fan, 10 inches.

This is a very solid, compact Forge, with circular firepan, specially designed for horseshoeing and kindred work.

Also used by Jewelers.

Has a deep Hearth and heavy Tuyere.

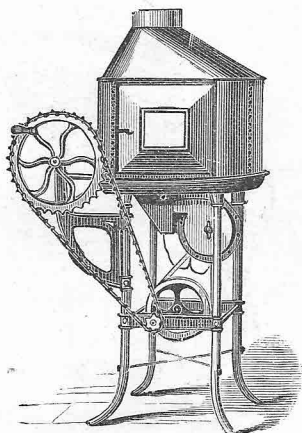
Will weld three-inch iron.

Has a movable front piece, which slides out when desired, to lay iron horizontally in the fire.

Has a sliding box underneath in front, with two compartments for welding powders.

A Farrier's shop can be fitted with no Forges so complete as these, at so little cost.

# THE KEYSTONE PORTABLE FORGES.



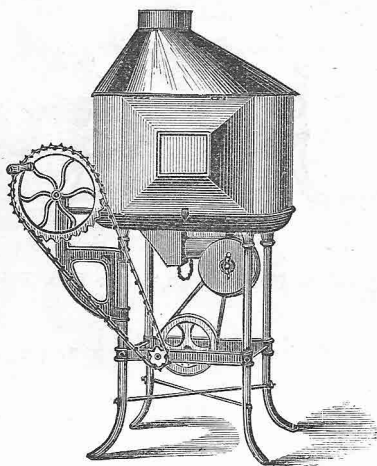
Forge No. 1, with Close Hood, Price \$30.00.

Size and Capacity same as Forge No. 1.

This Forge has closed hood, with large double doors, thus preventing the escape of sparks or fumes and smoke when starting the fire. It is especially adapted for cabinet makers, jewelers, locksmiths, plumbers, paper mills, planing mills, and for heating and tempering tools in factories where combustible matter is used.

We guarantee all our Forges and Blowers to give perfect satisfaction in every respect. More durable and economical than any other made.

# THE KEYSTONE PORTABLE FORGES.

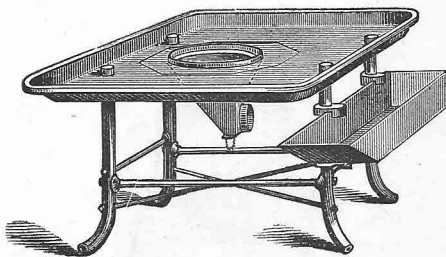


Forge No. 2, with Close Hood, Price \$40.00.

Size and Capacity same as Forge No. 2.

On Forge No. 2 we place a "Closed Hood," which is strongly made of sheet iron, completely enclosing the fireplace, and having at the sides large double doors. The closed hood prevents the escape of sparks and smoke, is used in planing mills, furniture factories, saw mills, oil refineries, sugar works, jewelers, tin-smiths, locksmith, etc., and annealing and refining metals.

# THE KEYSTONE STATIONARY BLAST FORGE.



Stationary Blast Forge, with Slack Tub, Price \$35.00.

Height, 25 inches. Size of Firepan, 40x40 inches.

This Forge is for use in shops supplied with blast from a stationary blower.

It has a heavy firepan, deep hearth and heavy tuyere.

Although light in appearance, it is very strong, resting on a tubular iron frame.

A shop already supplied with blast from a stationary blower can be more cheaply fitted with these than with brick forges.

They are handsome in appearance, and easily moved when desired.

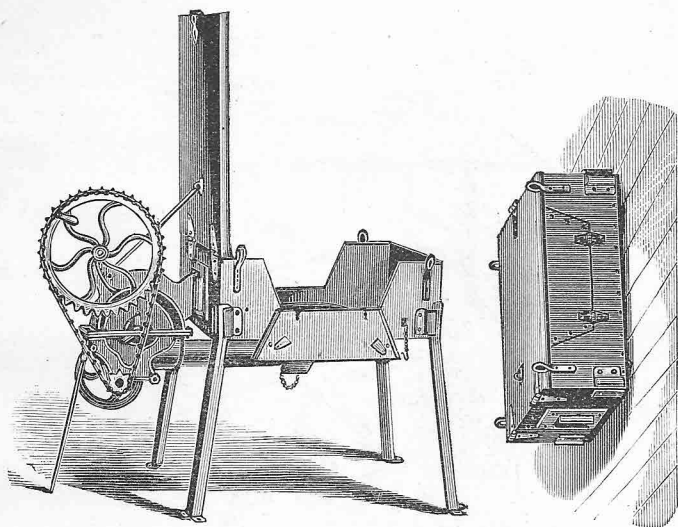
We do not furnish a "Hood" with this Forge unless specially ordered extra. The usual practice is to hang a "Canopy Hood" over it.

This Forge having our latest improved Ball Tuyere makes it the best Blast Forge in the market.



# THE KEYSTONE

## Navy and Army Forge.



Navy Forge. Price, \$60.00

Navy Forge, packed.

Height, 22 in. Size of Firepan, 22x27 in.  
Weight, 200 lbs. Diameter of Fan, 9 in.

Size,  
22 x 27 x 10 in.

THE FIREPAN is made of wrought iron, and is 10 inches deep, containing all the other parts of the Forge when packed for transportation.

THE BLOWER and Gearing are compactly framed together, and fit into a slot on the end of the Forge when in use. It has the Chain Gear.

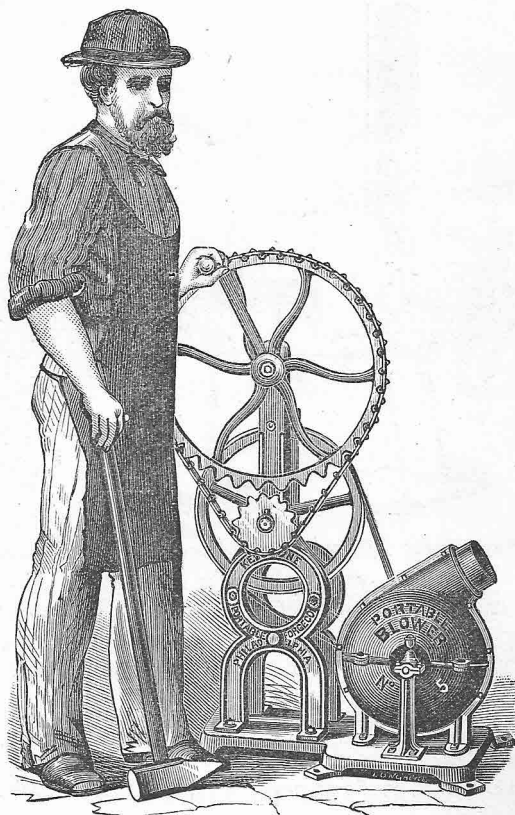
THE LEGS, made of angle iron, fit into slots at the corners of the Firepan.

THE TUYERE-BOX fits into a slot under the Hearth.

THE HEARTH is made of heavy cast iron, and is bolted to the bottom of the Firepan.

THIS FORGE will produce a quick welding heat on iron three inches diameter, and on larger iron if required, as there is plenty of spare blast. For use on ships and steamers, and on land for army purposes, miners, wagon trains, circus companies, lumber camps, etc., wherever exposed to rough handling and use in transportation, by land or sea.

# THE KEYSTONE HAND BLOWERS.



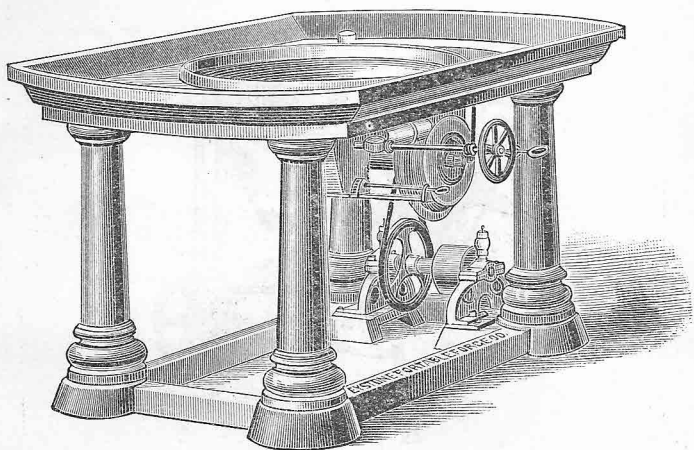
**Hand Blower, No. 5.** Diameter of Fan, 16 in. Price, \$30.00

For attaching to Brick Forge, with Chain Gear or Leather Belt, equal to largest bellows.

**Hand Blower, No. 4.** Diameter of Fan, 12 inches, Price \$25.00.

Hand Blower, No. 4, is same style as No. 5, above, has 12 inch driving wheel, is equal to 36 inch bellows. Improved Ball Tuyere and Plate. Price, \$2.50 extra.

# THE KEYSTONE POWER FORGES.



Power Forge, No. 5, Price \$115.00.

Height, 22 inches. Size of Firepan, 36x54 inches. Weight, 500 lbs.

These Forges are for general use in all shops where power is used.

No other Forges are made of equal capacity for heavy work, and combining so many conveniences, or so economical in cost of running. They should be run about 3000.

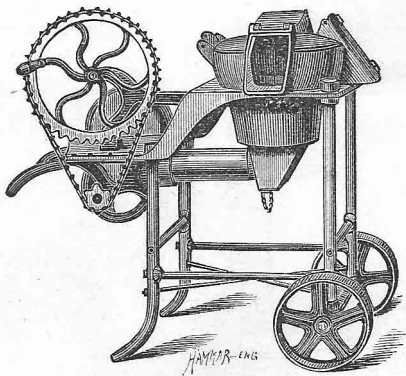
Power Forge No. 6, Price \$125.00.

Height, 22 inches. Size of Firepan, 54x54 inches. Weight, 600 lbs.

Power Forge No. 6 is like No. 5 in all respects, except that the bed is circular.

These Forges have been greatly improved in the arrangement of the gearing, strength of blast, and general working capacity; are furnished with revolving Ball tuyere.

# THE KEYSTONE RIVETING FORGES.



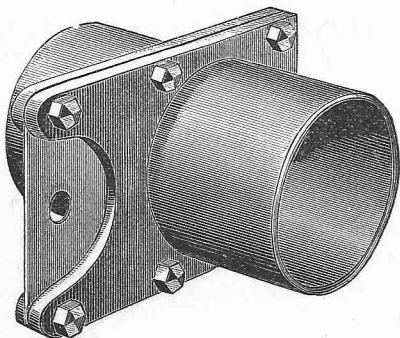
Riveting Forge, Price \$50.00.

This is a new Forge which we have brought out to meet a general demand from boiler-makers, ship-builders, etc., and is, we believe, the only complete Riveting Forge in the market.

It is run by Chain Gear, adapting it to out-door use in all sorts of weather.

The frame is strong and firmly braced to stand rough usage. The Pot has three doors, giving employment either to one, two or three rivet boys, as desired. The doors, or openings, when not in use, are closed by a falling lid. The top of the Pot is covered with a heavy lid, which is thrown open to kindle the fire, and closed when heating rivets.

# THE KEYSTONE BLAST GATE.



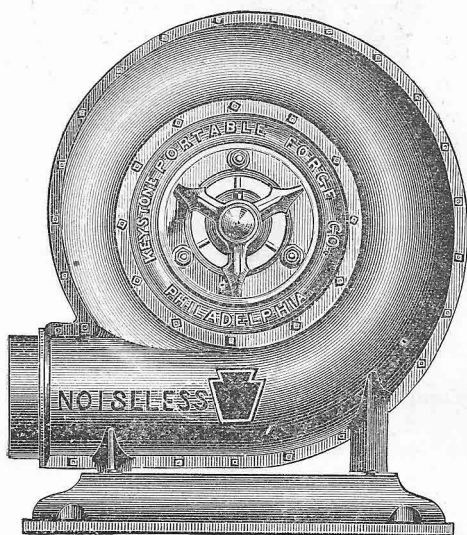
For opening and closing pipes which supply blast to furnaces,  
forges, etc.

## PRICE LIST.

1½ inch (Composition)	- \$1.25	10 inch (Iron)	- - \$6.00
2 " "	- 1.50	12 " "	- - 8.00
2½ " "	- 1.75	14 " "	- - 10.00
3 " "	- 2.00	16 " "	- - 12.00
4 " "	- 2.75	18 " "	- - 15.00
5 " (Iron)	- 2.75	20 " "	- - 18.00
6 " "	- 3.25	24 " "	- - 20.00
8 " "	- 4.50		- - 25.00

These measurements apply to the outside of the Collars of the Blast Gate.

THE KEYSTONE  
Pressure Blowers  
*AND EXHAUSTERS.*



For Foundries and Machine Shops.

# PRICE LIST AND DIMENSIONS

OF THE

## Keystone Pressure Blowers.

H	G	F	E	D	C	B	A	NAME OF BLOWER.	
								SIZE OF BLOWER IN INCHES.	
75	60	50	42	36	30	22	18	PULLEY.	DIAMETER.
10	10	7	6	6	4	2½	1¾		FACE.
8	6	5½	5¼	3¾	3	2½	1¾	DIAMETER OF OUTLET.	
16	13½	11½	9	7¾	6	4½	3¾	MELTING CAPACITY PER HOUR IN LBS.	
24,000	14,000	9000	6500	4000	2000	1000		INSIDE DIA. OF CUPOLA IN INCHES.	
60	48	42	36	32	26	22		SMITHS' FIRES.	
50	30	25	15	10	6	4	2	SIZE OF BOILER BY HORSE POWER.	
250	140	100	70	40	30	25	10	SPEED.	
2000	2000	2400	2600	3000	3200	3600	4000	PRICE WITHOUT COUNTERSHAFT.	
\$300 00	\$180 00	\$130 00	\$90 00	\$70 00	\$45 00	\$30 00	\$20 00		

# THE KEYSTONE

## FAN BLOWERS, IMPROVED.



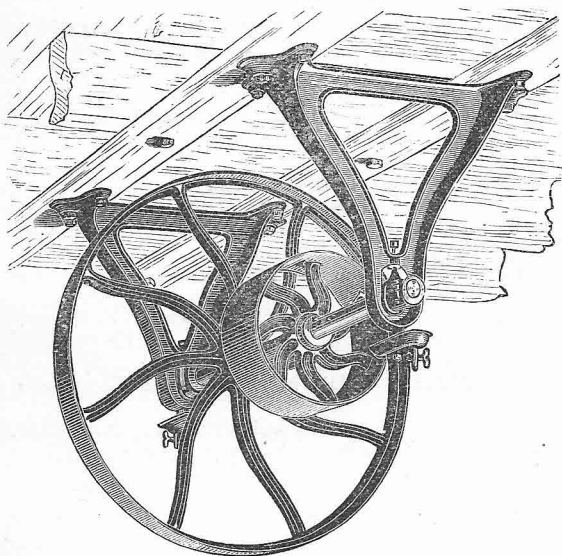
These we furnish to parties wishing small Fans to run by power.

No Fan will give a positive or force blast; but we will guarantee our Fans to give a stronger blast than any other of same size known to us.

	Number Ordinary Forges supplied.	Size Boiler, supplied by horse p'wr.	Outside height from floor to top of Boiler.	Diameter and Face of Pulley.	Outside Diameter of Nozzle.	Speed for Ordinary Service.	PRICE.
No. 1,			8	1x1 $\frac{1}{4}$	2 $\frac{1}{2}$	2500	\$8 00
No. 2,			12	1x1 $\frac{1}{4}$	2 $\frac{3}{4}$	2500	10 00
No. 3,	1		14	1x1 $\frac{1}{4}$	3 $\frac{1}{4}$	2400	12 00
No. 4,	1		16	1 $\frac{1}{2}$ x2	3 $\frac{1}{2}$	2400	15 00
No. 5,	2	10	18	2x2 $\frac{1}{2}$	4	2400	20 00
No. 6,	4	15	20	3x3	6	2400	25 00



# THE KEYSTONE COUNTER-SHAFTS, HANGERS AND PULLEYS.



Diameter of Driving Pull. y.	Diameter of Pulley for Main Shaft.	Diameter of Shaft.	Price with Driving Pulley.
14	5½, 6	$\frac{7}{8}$	\$ 8 00
16	6, 7	1	10 00
18	7, 8	1½	12 00
21	7, 8, 9	1¼	16 00
24	9, 10, 12	1⅜	22 00
28	10, 12, 14	1⅝	30 00
32	12, 14, 16	1¾	40 00
36	12, 14, 16, 18	1⅞	50 00
42	14, 16, 18, 20	2⅞	68 00
48	18, 20, 22, 24	2⅝	85 00
54	18, 20, 22, 24	2⅞	100 00

UNITED STATES NAVY YARD,

PHILADELPHIA, March 26, 1874.

SIR:—In obedience to your order of January 2d, we have tested the Forges of the Keystone Portable Forge Co., and respectfully report—

That the Forges presented to the Board consisted of small-sized Square, Riveting, and Power Forges, all supplied with a fan-blast, the blast in each case being sufficient for all work adapted to their different sizes. \* \* \* \*

The Cylindrical Closed-Top Rivet-Heating Forge is an excellent tool, well adapted for shops and repairs on board ships whilst lying at Navy Yards. It is arranged to burn anthracite coals, and we recommend its adoption for use in the various Yards.

The Navy Forge possesses qualities eminently adapted for use in Naval Steamers. It can be stowed away in a very small space, is easily and quickly put up, and its capacity is sufficient for all work that may be required on board ships.

We recommend that it supersede the bulky and unhandy forge and bellows now in use, and that all ships going to sea be furnished with it.

Very respectfully, your obedient servants,

H. NEWELL, Chief Engineer, U. S. N.

S. D. HIBBERT, Chief Engineer, U. S. N.

GEO. W. MELVILLE, 1st Assistant Engineer, U. S. N.

D. P. MCCARTNEY, 1st Assistant Engineer, U. S. N.

Com. J. R. M. MULLANY, U. S. N., Commander Navy Yard, Phila.

CHIEF ENGINEER'S OFFICE, U. S. NAVY YARD.

WASHINGTON, May 13, 1874.

Commodore THOS. H. PATTERSON, U. S. N., Commandant.

SIR:—In obedience to your order of the 11th inst., to test the Forges of the Keystone Portable Forge Co., \* \* \* I have respectfully to report—

The Forge for use on board ships is the best I have ever seen. The blast is supplied by a small fan blower driven by a crank and gearing, and is sufficient for producing any required heat. The firepan is of wrought iron ten inches high, and fitted with a lid for closing, and the hearth pan is of heavy cast iron. The blower and gearing, legs and tuyere-box, can be detached and all packed in the firepan, and the whole can be stowed away in a space 22x27 inches, and 10 inches deep.

The efficiency of this Forge, and the small space it occupies, make it particularly adapted for all purposes where transportation is necessary, and I can recommend it for use on board naval vessels.

The Forge for heating rivets is operated on the same principle. It is fitted upon wheels, so that it can be readily moved. It is capable of heating rivets for three gangs, and is a most convenient and useful Forge for all kinds of work where rivet-heating is necessary away from the shop.

Very respectfully, your obedient servant,

EDWIN FITHIAN, Chief Engineer, U. S. N.



